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MONTANA WATER SUPPLY OUTLOOK

Snowpack and Streamflow Forecasts as of

April 1, 1982

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FEDERAL STATE PRIVATE
COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"

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STATEWIDE OUTLOOK

Snowfall above average

Snowfall during March was above average over most of Montana, but three areas still show below average snowpack. Recent storms, lack of melt at low elevations, and generally average or above average snow in the higher elevations have virtually assured a good water supply for all of Montana this spring and summer.

The Snowy Mountains near Lewistown, the northeastern portion of the Beartooth Mountains and the northern part of the Bighorn Mountains still have below average amounts of water stored in the snowpack, but the rest of the state has average or above average mountain snowpack.

Areas having above average snow conditions are the Yellowstone, Madison and Gallatin River headwaters in and near Yellowstone National Park, headwaters of the Big Hole, Bitterroot, Upper Clark Fork and Blackfoot Rivers and along the Continental Divide from Butte to Glacier National Park.

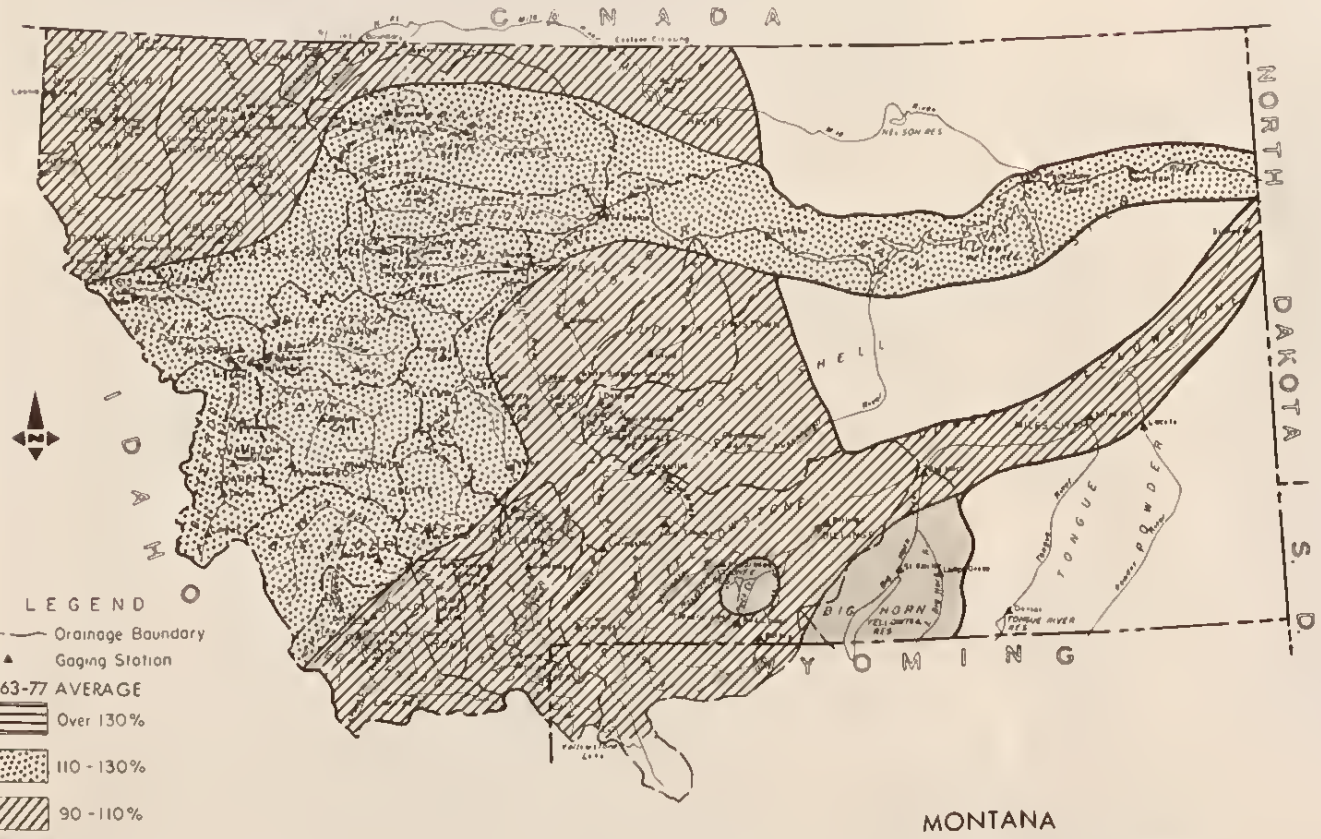
Adequate water supplies expected

Good March snowfall and heavy snows in early April have assured nearly all of Montana an adequate water supply for this spring and summer. Some smaller drainages in central Montana and the lower Yellowstone River drainage are expected to have runoff a little below average.

Drainages that parallel the Continental Divide from the Big Hole River headwaters to the Marias River headwaters are generally expected to have runoff that is 10 to 30 percent above average.

All other areas are forecast to have near to a little above average streamflow.

Good high elevation snowpack is expected to hold streamflow up well into the summer.



MONTANA
PROSPECTIVE STREAMFLOW FORECASTS

Many of the pioneering efforts to develop reliable and practical oversnow machines occurred in Montana. The machine pictured was designed and built at Montana State University Agricultural Engineering Department and was used on snow surveys for many years.

Missouri River & Hudson Bay Drainages

STREAMFLOW FORECASTS

BASIN, STREAM and of FORECAST POINT	PERIOD	THIS YEAR FORECAST THOUSAND ACRE FEET		PAST RECORD THOUSAND ACRE FEET		THIS YEAR FORECAST THOUSAND ACRE FEET		PAST RECORD THOUSAND ACRE FEET	
		Thousand Acre Feet	Percent of Average*	Last Year	Average	Thousand Acre Feet	Percent of Average*	Last Year	Average
		APRIL - SEPTEMBER				APRIL - JULY			
RED ROCK RIVER near Monida (1)		111	101	B8.4	110	105	102	B9.2	103
BEAVERHEAD RIVER near Grant (2)		1B3	107	133	171	160	108	131	14B
BEAVERHEAD RIVER at Barratts (2)		230	102		226	202	103		196
RUBY RIVER near Alder		105	100		105	B9.5	101		B9.0
BIG HOLE RIVER near Melrose		970	122		792	900	123		730
BOULDER RIVER near Boulder		114	111		103	10B	112		96.7
WILLOW CREEK near Harrison		22.7	106		21.5	20.5	107		19.2
MADISON RIVER near Grayling (3)		525	100	405	523	415	101	320	409
MADISON RIVER near McAllister (4)		922	103	716	B92	743	105	602	706
GALLATIN RIVER near Gateway		607	106		572	526	10B		48B
INFLOW MIDDLE CREEK RESERVOIR near Bozeman (5)		30.9	102		30.3	26.9	103		26.2
HYALITE CREEK near Bozeman (6)		47.9	101		47.4	41.7	102		41.0
GALLATIN RIVER at Logan		660	102		649	576	103		557
MISSOURI RIVER at Toston (7)		3010	113	2B17	2,671	2606	112	2619	2,330
SHEEP CREEK near White Sulphur Springs		20.5	90		22.8	17.8	90		19.B
SUN RIVER at Gibson Dam (B)		65B	113	498	5B0	604	114	457	529
BELT CREEK near Monarch		132	90		146	121	90		134
MISSOURI RIVER at Fort Benton (9)		4830	116		4,148	4210	116		3,640
TWO MEDICINE CREEK near Browning (10)		285	110		259	26B	110		244
BADGER CREEK near Browning		146	110		133	12B	110		116
MARIAS RIVER near Shelby		655	114	432	577	615	116	40B	532
MISSOURI RIVER at Virgelle (11)		5640	118		4,793	5000	11B		4,238
MISSOURI RIVER near Landusky (11)		6300	121		5,214	5500	120		4,5B6
NORTH FORK MUSSELSHELL RIVER near Delpine		6.4	100		6.4	5.5	100		5.5
SOUTH FORK MUSSELSHELL RIVER above Martinsdale		55.5	90		61.5	52.5	91		57.6
MISSOURI RIVER below Fort Peck Dam (11)		6000	122		4,929	5340	122		4,3B1
MILK RIVER at Eastern Crossing		25B	103		250				
MILK RIVER at Eastern Crossing (12)		90.B	109		B3.0				
INFLOW LAKE SAKAKAWEA, ND (11)		14B00	110		13,450	13460	110		12,239
SASKATCHEWAN RIVER BASIN									
SWIFTCURRENT CREEK at Sherburne (13)		140	106	121	132	123	107	109	115
ST. MARY'S RIVER near Babb (13)		530	106		498	450	106		426

(1) Adjusted for storage in Lima Reservoir.
(2) Adjusted for storage in Lima and Clark Canyon Reservoirs.
(3) Adjusted for storage in Hebgen Lake.
(4) Adjusted for storage in Hebgen Lake and Ennis Lake.
(5) Sum of West Fork Hyalite Creek and East Fork Hyalite Creek above the Reservoir.
(6) Adjusted for storage in Middle Creek Reservoir.
(7) Adjusted for storage in Lima, Hebgen, Ennis & Clark Canyon Reservoirs
(8) Adjusted for storage in Gibson Reservoir & diversions.
(9) Adjusted for storage in Lima, Clark Canyon, Hebgen, Ennis, Gibson, Pishkun, Willow Creek & Canyon Ferry Reservoirs.
(10) Adjusted for storage in Two Medicine Reservoir & diversions in Two Medicine Canal.
(11) Adjusted for all upstream reservoirs.
(12) Flow at Eastern Crossing minus St. Mary's Canal.
(13) Adjusted for storage in Lake Sherburne.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

WATER SUPPLY OUTLOOK

Expressed as "Poor, Fair, Average, Excellent" With Respect to Usual Supply

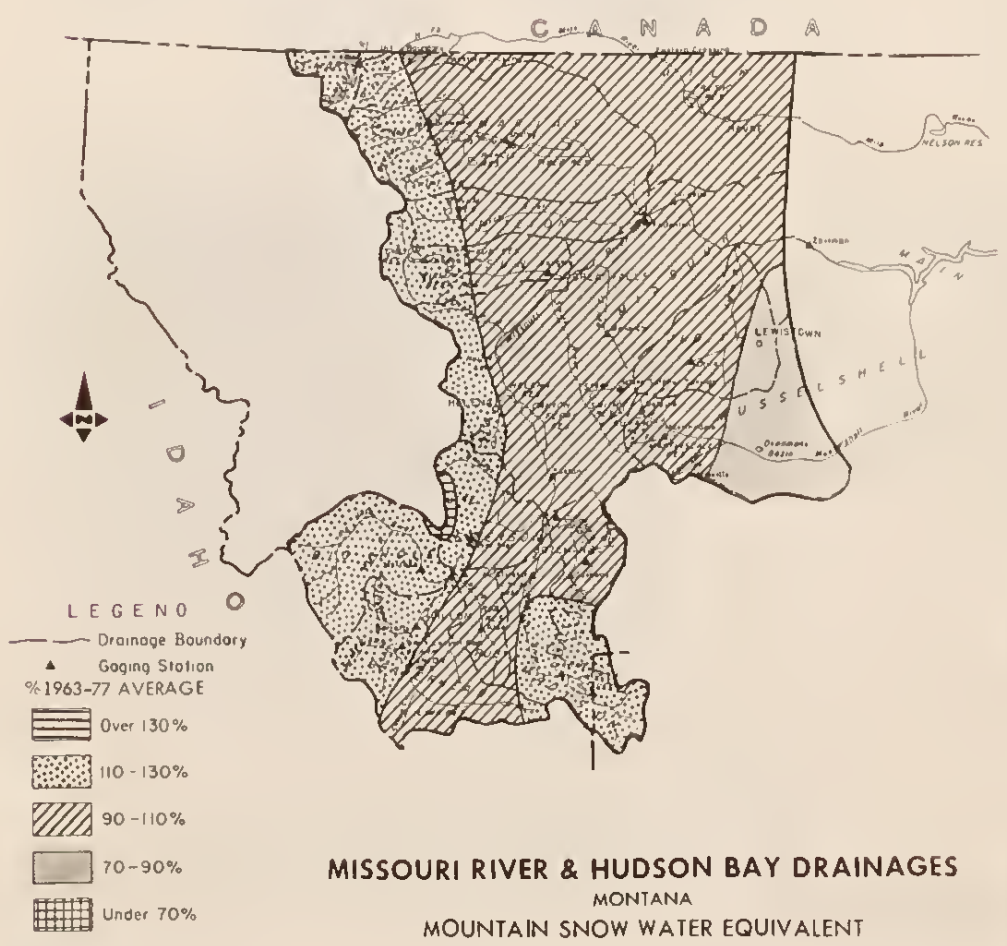
STREAM or AREA	Flow Period: Spring Season	Flow Period: Late Season
Beaverhead	Avg	Avg
Ruby	Avg	Avg
Big Hole	Exc	Exc
Boulder	Exc	Exc
Jefferson	Exc	Exc
Madison	Avg	Avg
Gallatin	Avg	Avg
West-Side Missouri	Exc	Exc
Smith-Belt	Avg	Avg
Sun	Exc	Exc
Teton	Exc	Exc
Marias	Exc	Exc
Judith	Avg	Fair
Musselshell	Avg	Avg
Milk	Avg	Avg
Bear Paws	Avg	Avg
St. Mary's	Exc	Exc

Above average run-off forecast

Snowfall in early April along with good March snowfall has assured most water users of an average or above average water supply. Almost all streams having headwaters along the Continental Divide from the Big Hole River northward to the Marias River are expected to have above average runoff this spring and summer. The streams in central Montana are forecast a little below average, but if present storm patterns continue, these areas may have near average snow cover before melt begins.

Many forecasts increased 10 to 15 percent over those issued a month ago. The above average lower elevation snowpack will provide considerable runoff early in the season and the good high elevation snow will hold streamflows up well into the summer.

Special tests on the accuracy of snow measurements are being conducted in California, Montana, British Columbia, and Ontario.



MISSOURI RIVER & HUDSON BAY DRAINAGES
MONTANA
MOUNTAIN SNOW WATER EQUIVALENT

Above average snowfall recorded on Missouri

Snowfall during March was above average, and almost all drainages show an increase in snow cover percentages over last month. The greatest increase in snowpack occurred along the Continental Divide from Butte northward to the Glacier Park area.

Presently, all drainages have near or above average amounts of water stored in the snowpack. Low elevation snow courses generally show a higher percentage snowpack than do the higher elevation sites. This is due to good snowfall and very little melt during March at elevations above the foothills.

Valley soils generally have good moisture due to recent precipitation and snowmelt, while mountain soils under the snowpack have near to a little below average moisture.

SUMMARY of SNOW MEASUREMENTS
(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF: Last Year	Average
Beaverhead	22	15B	112
Ruby	12	149	10B
Big Hole	20	170	11B
Boulder	14	140	120
Jefferson	6B	157	115
Madison	27	1B2	114
Gallatin	20	161	102
Missouri Headwater	115	164	112
West-side Missouri (Toston-Cacade)	9	132	114
Smith	B	131	101
Belt-Arrow	3	147	97
Missouri Main-stem	20	133	105
Teton & Sun	10	2B6	122
Marias	4	213	119
Marias-Teton-Sun	14	251	121
Judith	11	142	97
Musselshell	14	147	101
Judith-Musselshell	25	145	99
Milk	7	271	10B
Bear Paws	6	307	BB
Missouri (Total)	174	163	110
Saskatchewan			
St. Mary's	3	154	111
Bow River in Alberta	15	105	99

Yellowstone River Drainage

STREAMFLOW FORECASTS

BASIN STREAM and of FORECAST POINT	PERIOD	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
		APRIL - SEPTEMBER				APRIL - JULY			
YELLOWSTONE RIVER at Corwin Springs		2210	105	1703	2,102	1860	106	1466	1,749
YELLOWSTONE RIVER near Livingston		2560	104		2,471	2120	104		2,048
BOULDER RIVER at Big Timber		408	98		416	373	98		382
STILLWATER near Absarokee (1)		625	95		660	520	94		555
CLARKS FORK RIVER near Belfry		700	109		644	618	110		564
ROCK CREEK near Red Lodge		130	110	123	118	100	109	98.6	91.4
INFLOW COONEY RESERVOIR near Boyd (2)		57.0	88		64.5	46.0	88		52.5
YELLOWSTONE RIVER at Billings		4830	103	3998	4,682	4100	103	3628	3,979
BIGHORN RIVER near St. Xavier (3)		1830	90	1331	2,034	1675	90	1328	1,861
LITTLE BIGHORN RIVER near Hardin		157	80		196	140	80		174
YELLOWSTONE RIVER at Miles City (4)		6990	98		7,142	6120	98		6,243
YELLOWSTONE RIVER near Sidney (5)		7655	98		7,806	6670	98		6,805

(1) Adjusted for storage in Mystic Lake.
(2) Adjusted for storage in Cooney Reservoir.
(3) Adjusted for storage in Buffalo Bill, Boysen, Bull Lake, Pilot Butte and Bighorn Reservoirs.
(4) Adjusted for storage in Bull Lake, Buffalo Bill, Boysen, Pilot Butte, Bighorn and Tongue River Reservoirs.
(5) Adjusted for reservoirs shown in (4) and diversions into the Lower Yellowstone Canal.

ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE

Water supply outlook good

Storms in early April, along with snowpack measured on April 1 surveys, have virtually assured Yellowstone River water users an adequate supply this runoff season. Some minor shortages may be expected on smaller drainages in the Red Lodge Creek and the Little Bighorn River areas. However, if present storm patterns continue, even these areas may have near average snowpack before melt begins.

Almost all forecasts increased from 5 to 10 percent over those issued last month. In general, the headwaters are expected to produce a little more water than average this spring and summer while downstream tributaries are forecast to have a little below average runoff.

WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" with Respect to Usual Supply

STREAM or AREA	Flow Period: Spring Season	Flow Period: Late Season
Yellowstone at Livingston	Exc	Exc
Shields	Avg	Avg
Boulder	Avg	Avg
Sweetgrass - Big Timber	Avg	Avg
Stillwater	Avg	Avg
Rock Creek	Avg	Avg
Clark's Fork	Avg	Avg
Yellowstone above Bighorn	Avg	Avg
Bighorn	Avg	Avg
Little Bighorn	Fair	Fair
Tongue	Fair	Fair
Powder	Fair	Fair
Lower Yellowstone	Avg	Avg

Snow samples are made at marked locations called snow courses. The average of 10 samples, taken at specific points each time, are reported as the snow course measurement.

Snowpack above average on headwaters

March snowfall was above average in most drainages, with additional snowfall occurring in early April. Presently, the amount of water stored in the snowpack is above average in the Yellowstone River headwaters and near to a little below average in tributary streams.

The northern part of the Bighorn Mountains continues to show below average snowpack even though this area received good moisture during March.

Valley soil moisture is good because of recent precipitation and snowmelt. Mountain soils under the snowpack have average to a little below average moisture levels.

SUMMARY of SNOW MEASUREMENTS
(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUB-WATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF: Last Year	Average
Upper Yellowstone ab Livingston	17	192	109
Shields	8	126	92
Boulder & Stillwater	7	163	94
Rock Creek & Clark's Fork	16	162	95
Yellowstone (ab Bighorn River)	48	166	100
Bighorn/Wyoming	30	184	106
Little Bighorn	4	200	79
Bighorn (Total)	34	185	103
Tongue	10	193	92
Powder	7	170	101
Yellowstone (Total)	99	174	100

YELLOWSTONE RIVER DRAINAGE
MONTANA
MOUNTAIN SNOW WATER EQUIVALENT

average monthly weather outlook

FOR APRIL 1982

New powder snow and wind combine to create drifts and cornices.

SNOW SURVEY DATA

SNOW April 1, 1982

DRAINAGE BASIN and or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	THIS YEAR Snow Depth (Inches)	THIS YEAR Water Content (Inches)	PAST RECORD Water Content (Inches) Last Year	PAST RECORD Water Content (Inches) Average
ABUNDANCE LAKE	8800	3/25	74	25.5	15.5	22.5
AMBROSE	6480	3/26	54	17.0	6.7	14.4
ARCH FALLS	7350	3/29	56	14.2	6.6	14.4
ASHLEY DIVIDE	4820	3/31	28	8.2	1.5	-
ASHLEY LAKE	4000	3/31	26	6.7	2.0	-
BADGER PASS	6900	4/02	113	46.3A	26.1	41.7
BALD EAGLE PEAK	5700	3/25	173	72.6	39.3	64.7
BALD RIDGE	7500	3/26	44	13.3	10.3	14.6
BANFIELD MOUNTAIN	5600	3/25	77	28.4	15.0	25.8
BANFIELD MOUNTAIN PILLOW	5600	3/25	SP	25.9	14.8	22.5
BAREE CREEK	5500	3/31	121	49.5	28.0	50.3
BAREE MIDWAY	4600	3/30	99	39.6	16.1	38.8
BAREE TRAIL	3800	3/31	24	9.2	.5	9.8
BARKER LAKES	8250	3/26	56	15.9	13.6	-
BARKER LAKES PILLOW	8250	4/01	SP	17.7	13.5	-
BASIN CREEK	7180	3/29	47	11.8	9.3	8.4
BASIN CREEK PILLOW	7180	4/01	SP	11.0	9.0	-
BASSOO PEAK	5150	4/01	30	10.2	3.1	11.5
BEAGLE SPRINGS	8850	3/27	46	12.5	9.8	-
BEAGLE SPRINGS PILLOW	8850	4/01	SP	12.7	8.9	-
BEAR BASIN	8150	3/31	76	25.4	16.2	23.3
BEAR PAW SKI AREA	5200	3/30	27	8.4	2.1	7.3
BEAVER LAKE	5900	4/02	79	30.2	12.8	25.8
BERRY MEADOW	7300	3/29	39	10.6	5.8	8.4
BIG CREEK	6750	4/01	EST	50.0	33.8	47.6
BIG SKY	7700	4/01	69	21.2	11.0	17.3
BIG SKY MEADOW	6350	3/31	43	12.6	5.9	10.0
BIG SNOWY	7150	3/31	61	19.3	18.7	24.1
BLACK BEAR	7950	3/30	147	57.4	27.2	44.1
BLACK BEAR PILLOW	7950	3/30	SP	48.5	27.0	40.0
BLACK MOUNTAIN	7750	3/30	64	18.1	15.8	-
BLACK PINE	7100	3/30	59	18.6	7.7	15.5
BLACK PINE PILLOW	7100	3/30	SP	18.9	11.6	16.0
BLOODY DICK	7600	4/02	55	18.2	11.0	14.8
BLOODY DICK PILLOW	7600	4/02	SP	16.5	9.9	-
BLUE LAKE	5900	4/02	84	33.6A	15.6	28.0
BOTS SOTS	8000	3/29	25	6.8	3.6	9.1
BOULDER MOUNTAIN	7950	3/25	67	21.3	16.7	20.7
BOULDER MOUNTAIN PILLOW	7950	4/01	SP	25.3	18.7	-
BOX CANYON	6670	3/28	42	12.9	5.7	14.2
BOX CANYON PILLOW	6670	4/01	SP	12.7	4.2	-
BRANHAM LAKES	8850	3/29	95	35.6	26.4	31.9
BRIDGER BOWL	7250	4/01	78	28.2	19.7	30.2
BRIDGER BOWL PILLOW	7250	4/01	SP	26.2	22.8	29.5
BRISTOW CREEK	3900	3/25	32	13.0	.2	12.6
BRUSH CREEK TIMBER	5000	3/29	34	11.0	3.9	10.6
BULL MOUNTAIN	6600	3/26	32	8.6	2.2	6.7
CABIN CREEK	5200	3/29	26	7.4	.0	7.2
CALL ROAD	8050	3/27	48	13.1	9.0	13.1
CALVERT CREEK	6450	4/01	51	15.4	7.0	13.2
CALVERT CREEK PILLOW	6450	4/01	SP	12.4	4.5	9.8
CAMP MISERY	6400	3/26	124	50.3	48.2	52.0
CAMP SENIA	7890	3/29	20	3.2	3.1	7.7
CARROT BASIN	9000	4/05	141	50.6	23.5	39.5
CARROT BASIN PILLOW	9000	4/05	SP	35.2	21.0	29.8

SNOW April 1, 1982

DRAINAGE BASIN and or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	THIS YEAR Snow Depth (Inches)	THIS YEAR Water Content (Inches)	PAST RECORD Water Content (Inches) Last Year	PAST RECORD Water Content (Inches) Average
CARTER CREEK	7400	3/26	27	6.9	4.0	6.6
CASHE CREEK PILLOW	7800	4/01	SP	13.2	6.5	-
CEDAR GROVE	4100	3/25	35	12.8	2.3	14.2
CHESSMAN RESERVOIR	6200	3/31	20	4.9	4.2	4.2
CHICKEN CREEK	4060	3/30	40	15.8	6.8	-
CLOVER MEADOW	8600	3/27	65	19.0	14.6	19.7
CLOVER MEADOW PILLOW	8600	4/01	SP	21.7	14.6	-
COLE CREEK	7850	3/25	70	16.0	14.0	19.6
COLE CREEK PILLOW	7850	3/25	SP	14.8	12.8	19.4
COLLEY CREEK	6300	3/26	38	10.6	4.4	9.8
COMBINATION	5600	3/30	30	8.8	2.4	6.5
COMBINATION PILLOW	5600	3/30	SP	9.3	3.2	6.6
COOKE STATION	8150	3/29	76	23.6	13.0	21.3
COPPER BOTTOM	5200	4/01	EST	14.0	1.2	11.9
COPPER BOTTOM PILLOW	5200	4/01	SP	16.0	7.4	14.8
COPPER CAMP	6950	4/01	EST	40.0	19.6	34.2
COPPER CAMP PILLOW	6950	4/01	SP	43.1	24.0	42.8
COPPER CREEK	5700	4/01	EST	20.0	4.4	16.1
COPPER LAKE CREEK	6100	4/01	EST	32.0	12.3	26.3
COPPER MOUNTAIN	7700	3/31	56	16.4	10.4	12.2
COTTONWOOD CREEK	6400	3/29	40	10.3	7.9	9.0
COYOTE HILL	4200	3/26	31	11.8	3.1	10.7
CREVICE MOUNTAIN	8400	3/31	57	14.9	4.7	11.5
CRYSTAL LAKE	6100	3/31	42	13.6	12.2	15.7
CRYSTAL LAKE PILLOW	6100	4/01	SP	12.3	11.6	-
DAD CREEK LAKE	8400	3/27	EST	17.5	12.0	15.8
DAISY PEAK	7600	3/25	50	14.2	6.8	12.0
DALY CREEK	5780	3/28	52	16.4	7.0	13.1
DALY CREEK PILLOW	5780	4/01	SP	18.3	8.5	-
DARKHORSE LAKE	8600	3/28	81	31.6	20.0	30.1
DARKHORSE LAKE PILLOW	8600	4/01	SP	30.2	18.1	-
DAVIS CREEK	5400	3/25	77	30.2	19.2	27.1
DEADMAN CREEK	6450	3/31	39	11.8	8.0	12.6
DEADMAN CREEK PILLOW	6450	3/31	SP	11.5	5.6	11.1
DESERT MOUNTAIN	5600	3/25	53	17.4	12.2	17.3
DEVILS SLIDE	8100	3/29	87	25.3	13.6	24.6
DISCOVERY BASIN	7050	3/30	48	13.8	9.4	11.9
DIVIDE	7900	3/26	54	14.2	7.4	12.2
DIVIDE PILLOW	7900	3/26	SP	14.4	8.2	12.8
DIX HILL	6400	3/31	43	14.2	7.4	10.4
EAGLE CREEK	7000	3/27	47	15.6	8.8	16.1
EAST BOULDER S	9250	4/05	EST	33.5A	19.0	33.6
EAST FORK R.S.	5400	3/25	24	8.6	0.0	6.7
EL DORADO MINE	7800	3/29	82	26.0	18.4	23.8
ELK HORN SPRINGS	7800	3/27	40	11.5	5.8	10.1
ELK PEAK	8000	3/30	62	18.4	15.8	18.7
EMERY CREEK	4350	3/25	47	17.7	11.2	17.1
EMERY CREEK PILLOW	4350	3/25	SP	18.1	12.0	-
FATTY CREEK	5500	4/01	EST	28.0	16.3	25.1
FISH CREEK	8000	3/29	54	14.4	9.8	9.8
FISHER CREEK	9100	3/29	126	44.8	24.4	41.3
FISHER CREEK PILLOW	9100	3/29	SP	40.2	23.8	38.7
FIVE-BULL	5700	4/02	31	9.9	.6	7.6
FLATTOP MOUNTAIN PILLOW	6300	4/01	SP	52.4	43.8	51.6
FLEECER RIDGE	7500	3/26	51	14.6	8.0	12.2

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DRAINAGE BASIN and or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	THIS YEAR Snow Depth (Inches)	THIS YEAR Water Content (Inches)	PAST RECORD Water Content (Inches) Last Year	PAST RECORD Water Content (Inches) Average
FOOLHEN	8280	3/25	62	20.6	13.2	19.1
FOREST LAKE	6400	3/27	40	11.9	7.8	12.3
FOUR MILE	6900	3/25	33	9.8	6.4	9.3
FOURTH OF JULY	3450	3/29	20	7.3	.0	-
FRED BURR PASS	8000	4/02	91	33.0	19.0	27.7
FREIGHT CREEK	6000	4/02	57	21.5	7.4	17.2
FRIDAY HILL	4620	3/29	64	24.6	11.4	-
FROHNER MEADOWS	6480	3/31	35	11.2	4.8	9.2
FROHNER MEADOWS PILLOW	6480	3/31	SP	10.8	8.8	10.0
GARVER CREEK	4250	3/25	33	12.4	6.1	12.0
GARVER CREEK PILLOW	4250	3/25	SP	11.1	6.4	10.8
GIBBONS PASS	7100	3/25	84	30.9	17.8	24.8
GOAT MOUNTAIN	7000	3/29	45	13.7	3.4	11.6
GOLD CREEK LAKE	7200	3/29	65	19.4	12.4	17.7
GOLD STONE	8100	4/02	68	22.8	15.0	18.9
GRASSHOPPER	7000	3/30	25	6.7	4.2	6.4
GRAVE CREEK	4300	3/25	50	18.6	9.7	19.2
GRAVE CREEK PILLOW	4300	3/25	SP	18.5	8.1	18.7
GRIFFIN CREEK DIVIDE	5150	4/01	42	14.0	6.7	12.2
GRIZZLY PEAK	8640	3/25	64	14.1	11.5	17.9
GUNSIGHT LAKE	6300	4/02	113	47.9	24.6	42.7
HAND CREEK	5030	3/29	47	15.6	9.4	14.1
HAND CREEK PILLOW	5030	4/01	SP	18.8	10.6	-
HAWKINS LAKE	6450	3/25	91	36.0	25.1	34.2
HAWKINS LAKE PILLOW	6450	3/25	SP	31.7	22.3	31.6
HAYMAKER	8050	3/26	54	14.4	9.4	13.8
HEART LAKE TRAIL	4800	3/29	59	24.2	8.2	23.8
HEBGEN DAM	6550	4/01	62	16.4	7.7	12.5
HELL ROARING DIVIDE	5770	4/01	93	34.2	22.2	34.4
HERRIG JUNCTION	4850	3/30	80	33.2	18.3	-
HOLBROOK	4530	3/27	32	11.3A	2.6	10.7
HOOD MEADOW	6600	3/30	44	12.4	5.4	12.4
HOODOO BASIN	6000	3/29	148	65.0	34.4	53.6
HOODOO BASIN PILLOW	6000	4/01	SP	54.3	30.6	51.9
HOODOO CREEK	5900	3/29	139	58.5	28.5	49.9
INDEPENDENCE	7850	3/28	62	19.8	10.4	20.3
INTERGAARD	6450	3/30	38	11.6	6.6	9.4
JACK CREEK	7500	3/26	25	8.6	2.8	6.5
JAHNKE LAKE TRAIL	7200	4/02	50	15.7	7.4	10.5
JOHNSON PARK	6450	3/25	31	10.0	1.8	7.1
KEELER CREEK	3300	3/25	32	13.3	.0	11.5
KINGS HILL	7500	3/31	51	15.3	12.5	15.8
KISHENEHN	3890	3/27	33	10.0	3.3	8.2
KIWANIS CAMP	3720	3/30	0	.0	.0	1.6
KRAFT CREEK PILLOW	4750	4/01	SP	17.1	2.9	-
LAKE CREEK	6100	3/27	35	9.5	5.4	10.3
LAKEVIEW CANYON	6930	3/31	61	13.2	9.8	13.8
LAKEVIEW RIDGE	7400	3/31	57	13.4	9.4	12.1
LAKEVIEW RIDGE PILLOW	7400	4/01	SP	13.9	11.4	-
LEMHI PASS	7480	3/28	33	10.4	7.0	9.9
LEMHI RIDGE	8100	3/28	42	12.8	8.9	10.9
LEMHI RIDGE PILLOW	8100	3/28	SP	13.1	9.7	11.0
LICK CREEK	6860	3/30	46	12.2	6.8	11.3
LICK CREEK PILLOW	6860	3/30	SP	11.6	9.6	11.1
LITTLE PARK	7400	3/31	63	19.7	11.8	17.6
LOGAN CREEK	4300	3/29	28	9.1	3.2	7.7
LONE MOUNTAIN	8880	4/01	98	29.0	14.2	24.6

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LOST HORSE	5940	3/30	106	45.2	14.8	35.2
LOST SOUL	4800	3/25	57	20.4	10.5	16.8
LOWER TWIN	7900	3/25	71	25.6	18.8	22.8
LOWER TWIN PILLOW	7900	4/01	SP	22.2	18.8	-
LUBRECHT FLUME	4800	3/30	22	8.5	.0	6.5
LUBRECHT FLUME PILLOW	4800	4/01	SP	9.3	0.6	6.4
LUBRECHT FOREST # 3	5450	3/31	34	10.8	2.6	7.8
LUBRECHT FOREST # 4	4650	3/31	11	3.8	.0	2.9
LUBRECHT FOREST # 6	4040	3/31	14	4.6	.0	2.9
LUBRECHT HYDROPLOT	4200	3/30	20	7.8	.0	3.7
MADISON PLATEAU	7750	3/30	90	29.1	14.6	23.9
MADISON PLATEAU PILLOW	7750	3/30	SP	29.2	17.2	24.8
MANY GLACIER	4960	3/30	64	24.5	11.2	-
MANY GLACIER PILLOW	4960	3/30	SP	21.3	9.6	-
MARIAS PASS	5250	3/25	69	25.4	10.2	19.2
MAYNARD CREEK	6210	4/01	45	14.5	9.3	14.9
MAYNARD CREEK PILLOW	6210	4/01	SP	9.7	10.7	12.6
MIDDLE MILL CREEK	7850	3/29	55	18.4	12.8	18.2
MILL CREEK	7500	3/26	51	15.4	7.4	14.8
MINERAL CREEK	4000	3/24	57	22.4	10.8	19.2
MONUMENT PEAK	8800	3/28	90	30.9	18.0	29.1
MONUMENT PEAK PILLOW	8800	4/01	SP	25.0	14.0	-
MOULTON RESERVOIR	6850	3/26	37	9.2	6.1	-
MOUNT LOCKHART	6400	3/25	85	28.0	13.2	23.9
MOUNT LOCKHART PILLOW	6400	3/25	SP	27.6	14.5	21.8
MUDD LAKE	7650	4/01	74	27.0	14.4	22.4
MULE CREEK	8300	3/27	62	20.0	12.0	-
MULE CREEK PILLOW	8350	4/01	SP	18.8	11.4	-
NEVADA CREEK PILLOW	6480	4/01	SP	17.5	11.4	-
NEW WORLD	6700	4/02	57	16.0	12.3	17.3
NEWTON MOUNTAIN	5600	3/29	103	42.0	28.2	-
NEZ PERCE CAMP	5650	3/27	55	20.8	8.8	16.3
NEZ PERCE CAMP PILLOW	5650	3/27	SP	21.0	9.6	-
NEZ PERCE CREEK	6500	3/31	34	10.3	4.9	7.7
NEZ PERCE PASS	6570	3/27	62	24.1	8.8	19.0
NOISY BASIN	6040	3/26	116	44.1	47.3	48.3
NOISY BASIN PILLOW	6040	4/01	SP	41.3	41.0	41.2
NORTH FK. ELK CREEK	6250	3/30	58	18.8	6.8	13.9
NORTH FK. ELK CREEK PILLOW	6250	3/30	SP	20.4	8.4	14.4
NORTH FORK JOCKO	6330	4/01	EST	52.0	32.0	48.4
NORTH MEADOW	7500	3/25	38	9.2	5.9	9.4
NORTHEAST ENTRANCE	7400	3/31	39	9.7	4.0	10.4
NORTHEAST ENTRANCE PILLOW	7400	3/30	SP	10.5	5.9	9.8
NOTCH	8500	3/26	65	18.4	12.4	17.5
OPHIR PARK	7150	3/31	61	21.4	16.6	21.1
PALISADE CREEK	8250	4/01	105	39.2	21.8	33.1
PETERSON MEADOWS	7200	4/01	49	13.2	7.2	11.5
PETERSON MEADOWS PILLOW	7200	4/01	SP	12.8	10.1	12.0
PICKET PIN D	9450	4/05	EST	30.0A	15.0	28.5
PICKET PIN LOWER	6200	3/30	9	2.0	.0	2.4
PICKET PIN MIDDLE	8100	3/30	39	13.1	4.5	13.3
PICKET PIN UPPER	8100	3/30	67	20.2	14.3	23.1
PICKFOOT CREEK	6650	3/25	40	11.8	7.0	-
PICKFOOT CREEK PILLOW	6650	4/01	SP	12.8	6.5	-
PICNIC GROUNDS	6500	3/30	25	6.8	2.4	4.9
PIKE CREEK	5930	3/21	94	33.9	-	-
PIKE CREEK PILLOW	5930	3/21	SP	34.7	18.2	-

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PIPESTONE PASS	7200	3/31	32	8.4	3.9	6.2
PLACER BASIN F	8830	4/05	EST	26.5A	15.0	23.4
PLACER BASIN PILLOW	8830	4/01	SP	17.6	12.3	-
POORMAN CREEK	5100	3/25	100	44.2	19.5	38.0
POORMAN CREEK PILLOW	5100	3/25	SP	40.1	16.8	34.3
PORCUPINE	6500	3/26	26	8.0	5.4	8.8
PORCUPINE PILLOW	6500	3/26	SP	6.6	4.8	-
POTOMAGETON PARK	7150	4/01	69	18.8	8.2	15.9
RED MOUNTAIN	6000	3/31	62	22.3	13.3	20.6
RED TOP	5260	3/29	88	35.0	21.6	-
ROCK CREEK	5600	3/31	21	6.8	5.9	11.0
ROCK CREEK MEADOWS	8160	3/31	89	28.2	14.5	24.8
ROCKER PEAK	8000	3/29	62	19.0	15.7	16.5
ROCKER PEAK PILLOW	8000	3/29	SP	18.7	15.4	16.2
ROCKY BOY	4700	3/30	15	4.6	1.0	4.8
ROCKY BOY PILLOW	4700	3/30	SP	6.7	1.9	5.0
SACAJAWEA	6550	4/01	53	16.4	12.0	16.1
SADDLE MOUNTAIN	7940	3/25	92	33.0	19.9	27.3
SADDLE MOUNTAIN PILLOW	7940	3/25	SP	33.5	21.8	28.6
SAND BASIN LOWER	6480	4/01	59	18.0	11.0	-
SENTINEL CREEK	8300	4/01	EST	28.0	16.7	25.6
SHOWER FALLS	8100	3/29	90	26.7	15.2	26.7
SHOWER FALLS PILLOW	8100	4/01	SP	26.7	17.1	26.4
SILVER RUN	6630	3/29	11	3.3	2.0	5.8
SILVER RUN PILLOW	6630	3/29	SP	3.5	4.2	-
SKALKAHO SUMMIT	7260	3/28	92	33.4	17.2	28.4
SKALKAHO SUMMIT PILLOW	7260	4/01	SP	34.4	18.0	-
SKYLARK TRAIL PILLOW	6200	4/01	SP	44.1	21.2	-
SLAG-A-MELT LAKE	8750	3/28	86	32.9	22.2	28.7
SLIDE ROCK MOUNTAIN	7100	3/31	64	20.1	10.3	19.0
SMUGGLER MINE	6960	3/29	43	12.4	7.2	11.0
SOUTH FORK SHIELDS	8100	3/26	69	25.0	21.6	26.7
SOUTH FORK SHIELDS PILLOW	8100	3/26	SP	17.5	14.8	-
SPOTTED BEAR MOUNTAIN	7000	4/02	53	19.4A	6.8	16.3
SPUR PARK	8100	3/31	74	25.6	17.6	23.7
SPUR PARK PILLOW	8100	3/31	SP	24.2	18.6	23.7
STAHL PEAK	6050	3/25	105	40.0	33.3	42.4
STAHL PEAK PILLOW	6050	3/25	SP	35.7	28.7	34.7
STEMPLE PASS	6600	3/29	52	14.2	6.6	11.5
STORM LAKE	7780	4/01	59	15.6	10.2	15.1
STRYKER BASIN	6180	3/30	97	44.7	27.2	-
STUART MILL	6500	3/30	31	10.2	2.8	7.9
STUART MOUNTAIN	7400	4/01	EST	36.0	27.8	34.6
SUCKER CREEK	3960	3/30	0	.0	.4	0.5
SUGARLOAF	7350	3/29	46	13.1	9.9	10.7
TAYLOR ROAD	4080	3/30	0	.0	1.0	3.1
TEN MILE LOWER	6600	3/31	34	9.3	6.8	8.2
TEN MILE MIDDLE	6800	3/31	55	14.6	12.9	13.2
TEN MILE UPPER	8000	3/31	58	16.8	14.8	15.4
TEPEE CREEK	8000	3/27	66	19.6	11.4	16.7
TEPEE CREEK PILLOW	8000	3/27	SP	15.7	10.4	13.9
TIMBERLINE CREEK	8850	3/29	48	13.0	11.1	16.6

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TRAIL CREEK	7090	3/28	35	10.2	7.0	9.5
TRUMAN CREEK	4060	3/31	16	5.0	.0	-
TV MOUNTAIN	6800	4/01	EST	23.0	13.1	20.7
TWELVEMILE CREEK	5600	3/30	70	29.2	6.2	23.4
TWELVEMILE CREEK PILLOW	5600	4/01	SP	25.2	9.5	20.7
TWENTY-ONE MILE	7150	3/27	64	18.4	10.0	19.6
TWIN CREEKS	3580	4/02	33	13.0A	.0	12.1
TWIN LAKES	6510	3/30	129	54.3	23.3	44.9
TWIN LAKES PILLOW	6510	3/30	SP	53.1	24.7	43.5
UPPER HOLLAND LAKE	6200	4/01	EST	40.0	23.4	38.6
WALDRON	5600	3/25	47	15.2	2.0	11.1
WALDRON PILLOW	5600	3/25	SP	15.2	6.0	10.4
WARM SPRINGS	7800	4/02	75	25.4	16.6	-
WARM SPRINGS PILLOW	7800	4/02	SP	26.4	17.6	-
WEASEL DIVIDE	5450	3/25	98	38.5	25.8	37.2
WEST ROSEBUD	7500	4/01	34	9.7	3.6	13.0
WEST YELLOWSTONE	6700	3/27	42	12.1	5.3	12.8
WEST YELLOWSTONE PILLOW	6700	3/27	SP	10.2	4.9	9.4
WHISKEY CREEK	6800	3/31	86	27.2	12.8	21.8
WHISKEY CREEK PILLOW	6800	3/31	SP	21.5	12.5	18.4
WHITE MILL	8700	3/29	102	33.4	17.5	29.7
WHITE MILL PILLOW	8700	3/29	SP	28.9	16.0	27.3
WHITE PINE RIDGE	8850	3/27	32	5.4	5.4	5.9
WILLOW CREEK	6500	3/25	43	8.2	4.4	10.8
WOOD CREEK	5960	4/02	49	15.6	4.8	-
WOOD CREEK PILLOW	5960	4/01	SP	15.2	8.1	-
WRONG CREEK	5700	3/28	51	17.6	6.1	15.4
WRONG RIDGE	6800	3/28	66	24.4	9.9	21.5

IDAHO

ABOVE BURKE (ID)	4100	3/30	53	21.4	8.4	24.7
BEAR MOUNTAIN (ID)	5400	3/25	168	75.1A	41.9	64.2
BIG SPRINGS (ID)	6500	3/28	67	24.0	12.9	22.0
BLUE LEDGE MINE (ID)	6900	3/29	55	16.7	11.0	17.7
CAMP CREEK (ID)	6580	3/29	51	11.5	9.6	12.0
CRAB CREEK (ID)	6860	3/29	52	15.2	-	-
HALVERSON CREEK (ID)	4850	3/25	139	60.8	36.4	44.2
ISLAND PARK (ID)	6290	3/28	56	20.4	10.7	17.2
KILGORE (ID)	6320	3/29	40	13.2	7.1	11.5
KIT CARSON (ID)	4950	3/27	31	13.1	2.4	9.1
LOLO PASS (ID)	5230	3/30	84	34.3	14.1	32.6
LOOKOUT (ID)	5250	3/30	97	37.6	17.4	37.1
MOOSE CREEK (ID)	6200	4/01	63	22.0	10.8	17.1
MOSQUITO RIDGE (ID)	5200	4/01	109	41.8	25.6	40.2
SAVAGE PASS (ID)	6170	3/30	92	34.3	17.6	28.6
SAWTELL MOUNTAIN (ID)	8720	3/29	160	48.8	26.0	35.1
SMITH CREEK (ID)	4800	3/31	127	52.8	34.2	48.8
SUNSET (ID)	5540	4/01	100	37.0A	17.0	36.2
TARGHEE PASS (ID)	6980	3/29	67	16.8	9.0	17.1
VALLEY VIEW (ID)	6680	3/29	71	19.8	9.9	18.4
WHITE ELEPHANT (ID)	7710	3/29	113	34.4	18.5	25.6

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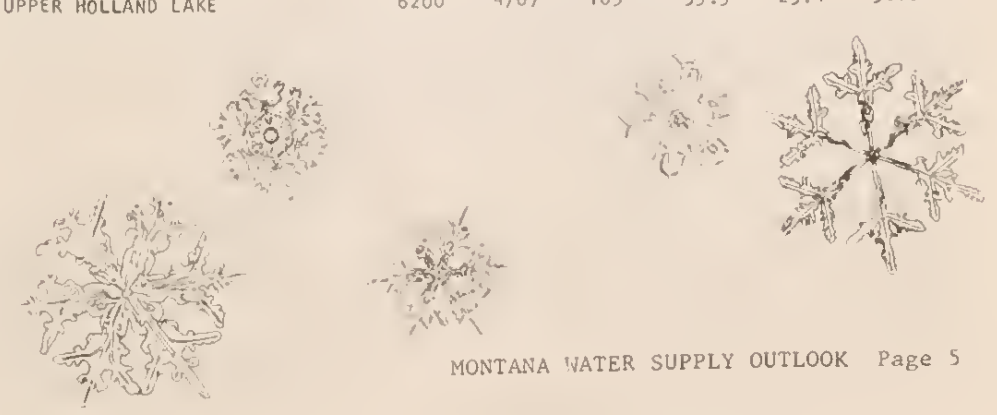
WYOMING						
BALD MOUNTAIN (WY)	9380	3/30	78	21.6	9.5	25.2
BALD MOUNTAIN PILLOW (WY)	9380	3/30	SP	20.1	9.3	-
BURGESS R.S. (WY)	7880	3/29	29	7.4	5.0	9.3
BURGESS R.S. PILLOW (WY)	7880	3/29	SP	8.0	-	-
CANYON PILLOW (WY)	7940	3/28	SP	22.5	-	-
EAST ENTRANCE (WY)	6960	3/26	44	15.5	5.0	9.6
FIVE SPRINGS FALLS (WY)	7620	3/31	26	6.0	2.6	8.4
LAKE CAMP (WY)	7780	3/31	45	12.3	5.5	10.1
LUPINE CREEK (WY)	7380	4/02	47	9.3	5.3	11.1
NORRIS BASIN (WY)	7500	3/28	46	13.5	5.6	11.8
PITCHSTONE PLATEAU (WY)	8520	3/29	179	74.2A	-	56.7
STEAMBOAT POINT (WY)	7560	3/29	26	6.3	3.6	09.4
SYLVAN LAKE PILLOW (WY)	8420	3/26	SP	26.7	-	-
SYLVAN PASS (WY)	7100	3/26	52	17.5	7.4	14.5
THUMB DIVIDE (WY)	7980	3/29	76	25.0	11.5	22.1
TOGWOTEE PASS (WY)	9580	3/30	110	39.3	20.4	-
TWO OCEAN PLATEAU PILLOW (W	9160	4/01	SP	37.5	18.3	-
WOLVERINE (WY)	7650	3/30	48	15.1	8.4	13.6
WOLVERINE PILLOW (WY)	7650	3/30	SP	15.3	8.1	-
YOUNTS PEAK PILLOW (WY)	8350	4/01	SP	25.8	10.0	23.6
ALBERTA						
AKAMINA (AL)	5810	4/01	81	26.1	17.0	19.6
ALLISON PASS (AL)	6490	4/01	72	22.7	17.6	19.9
BOW RIVER (AL)	5080	3/31	36	9.2	9.6	8.3
BOW RIVER SUMMIT (AL)	6660	4/02	51	13.9	15.0	15.4
CHATEAU LAWN (AL)	5710	3/31	44	11.8	12.9	10.8
CUTHEAD LAKE (AL)	7250	4/01	61	15.3	16.6	17.2
HIGHWOOD SUMMIT BUSH (AL)	7250	3/30	54	12.0	14.1	16.1
LEE CREEK Q (AL)	4890	3/30	29	7.9	4.6	7.2
LITTLE ELBOW SUMMIT (AL)	7090	3/30	48	10.5	11.0	12.2
MIDDLE DRYWOOD (AL)	5150	3/29	10	2.9	0.4	1.9
MIRROR LAKE (AL)	6590	3/31	43	11.6	12.4	11.9
MIST CREEK (AL)	5740	3/30	37	9.8	6.0	7.8
MOUNT SKOKI (AL)	6740	4/01	54	14.4	14.4	14.2
MUD LAKE (AL)	6200	3/30	58	16.7	10.6	12.4
NIGEL CREEK (AL)	6400	3/29	52	15.3	16.0	17.1
PIPESTONE UPPER (AL)	5300	3/31	40	11.2	9.7	8.3
PTARMIGAN HUT (AL)	7150	4/01	58	16.6	15.1	16.6
SUNSHINE VILLAGE (AL)	7300	4/02	81	25.9	20.0	25.4
SUNWAPTA FALLS (AL)	4590	3/29	31	7.6	7.7	8.2
THREE ISLE LAKE (AL)	7090	3/30	81	25.7	22.0	-
WILKINSON SUMMIT BUSH (AL)	6490	4/01	31	6.8	6.0	9.1
WILKINSON SUMMIT OPEN (AL)	6490	4/01	29	6.2	4.4	7.7
BRITISH COLUMBIA						
BEAVERFOOT (BC)	6200	3/28	37	9.5	8.2	9.6
FERNIE (BC)	3510	3/30	27	9.6	.0	7.7
FERNIE EAST (BC)	4100	3/30	47	18.3	9.2	15.1
FERNIE NE (BC)	3510	3/30	35	12.1A	5.1	10.0
FIDELITY MOUNTAIN (BC)	6130	3/31	135	52.8	40.9	43.6
FIELD (BC)	4200	3/30	29	9.1A	6.1	5.4
FLOE LAKE (BC)	6860	3/28	95	34.3	29.0	31.7

SNOW April 1, 1982

DRAINAGE BASIN and/or SNOW COURSE NAME	Elevation	THIS YEAR Date of Survey	Snow Depth (inches)	Water Content (inches)	PAST RECORD Water Content (inches) Last Year	Average
GLACIER (BC)	4100	3/31	82	32.2	26.2	27.6
GRAY CREEK LOWER (BC)	5080	3/31	66	21.4	15.1	19.2
GRAY CREEK UPPER (BC)	6260	3/31	98	34.6	27.6	32.0
KICKING HORSE (BC)	5410	3/30	51	15.3	13.2	14.9
KIMBERLEY (BC)	3800	3/30	24	8.4A	4.7	6.8
KIMBERLEY LOWER VOR (BC)	4490	3/31	32	9.6	4.6	7.3
KIMBERLEY MIDDLE VOR (BC)	5510	3/31	50	13.9	9.5	12.5
KIMBERLEY UPPER VOR (BC)	7020	3/30	68	21.1	15.1	20.4
MARBLE CANYON (BC)	4990	3/29	50	15.0	10.4	14.2
MORRISSEY RIDGE (BC)	6100	3/29	84	30.7	18.9	28.8
MOUNT ABBOT (BC)	6490	3/31	141	53.9	43.1	50.3
MOUNT ASSINIBOINE (BC)	7310	3/28	71	22.5	20.0	21.8
MOUNT JOFFRE (BC)	5740	3/28	50	16.4	13.4	15.7
SINCLAIR PASS (BC)	4490	4/01	28	7.2	4.3	5.4
SULLIVAN MINE (BC)	5080	3/31	50	15.2	12.3	14.5
THUNDER CREEK (BC)	6590	3/28	41	8.6	9.6	11.7
UPPER ELK RIVER (BC)	4400	3/30	17	6.1	0.0	6.6
VERMONT CREEK (BC)	4990	3/28	64	25.1	14.0	20.1

LATE ARRIVING DATA

BIG CREEK	6750	4/07	128	51.6	33.8	47.6
COPPER BOTTOM	5200	4/06	46	16.7	1.2	11.9
COPPER CAMP	6950	4/06	100	38.8	19.6	34.2
COPPER CREEK	5700	4/06	58	22.1	4.4	16.1
COPPER LAKE CREEK	6100	4/06	83	31.5	12.3	26.3
FATTY CREEK	5500	4/07	82	29.0	16.3	25.1
NEVADA CREEK	6480	4/06	58	19.2	10.6	--
N. FORK JOCKO	6330	4/07	136	54.3	32.0	48.4
STUART MOUNTAIN	7400	4/07	96	37.7	27.8	34.6
TRINKUS LAKE	6100	4/07	128	51.0	33.4	46.3
TV MOUNTAIN	6800	4/07	67	23.0	13.1	20.7
UPPER HOLLAND LAKE	6200	4/07	105	39.9	23.4	38.6



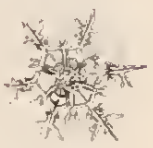
Columbia River Drainage

STREAMFLOW FORECASTS

BASIN, STREAM and/or FORECAST POINT	PERIOD	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average	THIS YEAR FORECAST Thousand Acre Feet	THIS YEAR FORECAST Percent of Average	PAST RECORD THOUSAND ACRE FEET Last Year	PAST RECORD THOUSAND ACRE FEET Average
		APRIL - SEPTEMBER				APRIL - JULY				APRIL - JUNE			
KOOTENAI RIVER below Libby Dam (1)		7,830	108	6,726	7,246	6,680	108	5,516	6,178				
FISHER RIVER near Libby		260	96		240	243	96		253				
YAAK RIVER near Troy		534	99		537	510	99		514				
KOOTENAI RIVER at Leonia (1)		9,380	106	7,941	8,883	8,160	106	6,601	7,727	6,520	106	4,573	6,150
INFLOW MOULTON RESERVOIR nr BUTTE (Million Gallons)						365	128	378	286	335	129	352	260
WARM SPRINGS CREEK AT MEYERS DAM near Anaconda (2)		56.0	110		50.7	45.5	110		41.2				
FLINT CREEK near Southern Cross (3)		21.0	114	23.8	18.5	17.5	114	20.3	15.4				
FLINT CREEK below Boulder Creek (4)		85.5	110		77.6	68.0	111		61.3				
INFLOW LOWER WILLOW CREEK RESERVOIR near Hall (5)		21.0	124		16.9	20.0	125		16.0				
MIDDLE FORK ROCK CREEK near Philipsburg		96.0	122		78.8	86.5	122		71.1				
NEVADA CREEK near Finn		28.5	121		23.6	26.5	122		21.8				
BLACKFOOT RIVER near Bonner		1,145	113		1,017	1,040	113		920	900	113		794
CLARK FORK RIVER above Milltown (6)		960	114		843	838	115		730	705	115		613
CLARK FORK RIVER above Missoula		2,105	113	1,530	1,859	1,878	114	1,359	1,651	1,605	114	1,148	1,408
WEST FORK BITTERROOT RIVER near Conner (7)		242	129		187	223	130		172				
BITTERROOT RIVER near Darby		775	129	445	602	710	129	401	552	625	130	339	480
SKALKAHO CREEK near Hamilton		68.0	118		57.4	59.5	119		49.8				
BURNT FORK CREEK near Stevensville (8)		44.2	114		38.8	38.8	115		33.6				
BITTERROOT RIVER at Missoula (9)		1,880	122		1,543	1,745	123		1,416	1,495	123		1,211
CLARK FORK RIVER below Missoula		3,895	117		3,405	3,623	118		3,069	3,100	118		2,618
CLARK FORK RIVER at St. Regis		5,180	115	3,586	4,521	4,670	115	3,240	4,078	4,010	115	2,797	3,492
NORTH FORK FLATHEAD RIVER near Columbia Falls		1,970	100		1,969	1,785	100		1,782	1,500	100		1,498
MIDDLE FORK FLATHEAD RIVER near West Glacier		2,100	110	1,504	1,911	1,920	110	1,385	1,750	1,620	110	1,134	1,470
SOUTH FORK FLATHEAD RIVER near Columbia Falls (10)		2,500	109	1,815	2,302	2,350	109	1,714	2,159	2,050	109	1,475	1,884
FLATHEAD RIVER at Columbia Falls (10)		6,760	107	5,061	6,330	6,220	107	4,664	5,827	5,300	107	3,860	4,964
SWAN RIVER near Big Fork		740	109		681	650	109		596				
FLATHEAD RIVER near Polson (11)		8,050	109	6,097	7,394	7,400	109	5,622	6,806	6,300	109	4,600	5,779
CLARK FORK RIVER near Plains (11)		14,000	113	10,071	12,340	12,700	113	9,190	11,222	10,750	113	7,570	9,507
THOMPSON RIVER near Thompson Falls		275	105		263	247	106		234				
PROSPECT CREEK at Thompson Falls		153	107		143	143	108		133				
CLARK FORK RIVER at Whitehorse Rapids (12)		15,800	115		13,781	14,400	115		12,519	12,200	115		10,633

(1) Adjusted for storage in Lake Koocanusa
(2) Adjusted for storage in Silver Lake, diversions to and pumping from Georgetown Lake.
(3) Adjusted for storage in Georgetown Lake, diversions from and pumping to Silver Lake.
(4) Sum Flint Creek at Maxville and Boulder Creek at Maxville.
(5) Sum of North Fork Lower Willow Creek near Hall and South Fork Lower Willow Creek near Hall.
(6) Difference in observed flow Clark Fork above Missoula and Blackfoot near Bonner.
(7) Adjusted for storage in Painted Rocks Reservoir.
(8) Adjusted for diversion into Sunset Highline Canal.
(9) Difference in observed flow Clark Fork above and below Missoula.
(10) Adjusted for storage in Hungry Horse Reservoir.
(11) Adjusted for storage in Hungry Horse Reservoir and Flathead Lake.
(12) Adjusted for storage in Hungry Horse Reservoir, Flathead Lake and Noxon Rapids Reservoir.

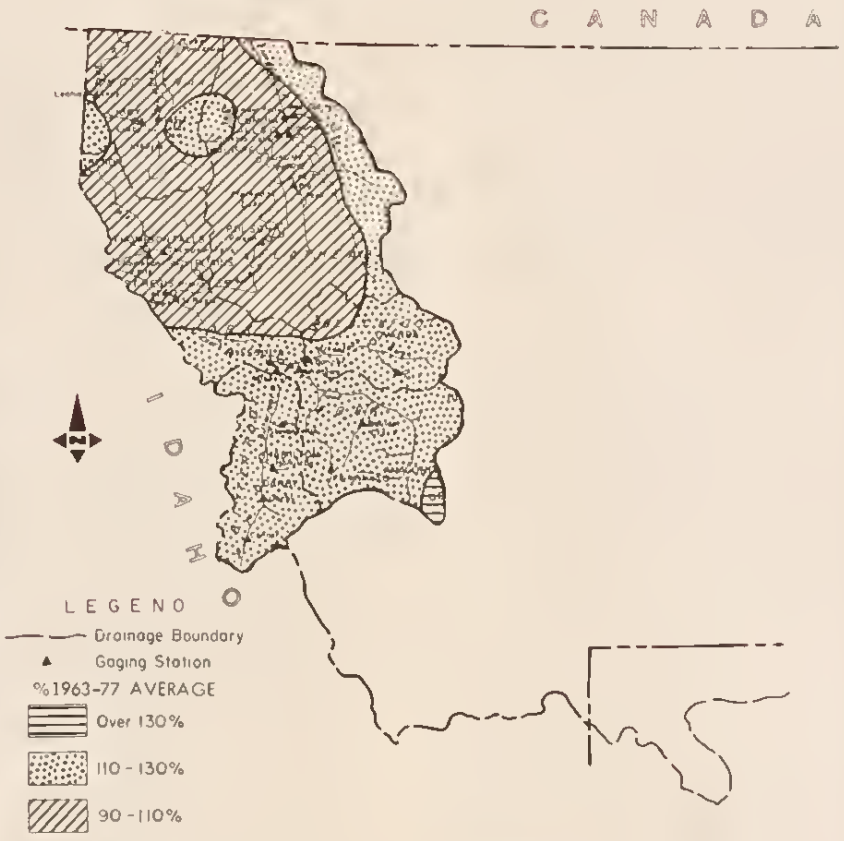
ALL FORECASTS PREPARED IN COOPERATION WITH THE NATIONAL WEATHER SERVICE



Streamflows should be adequate

Good March and early April snowfall has improved water supplies particularly in the Upper Clark Fork and Blackfoot River drainages. Generally, the higher percentage or above average forecasts are in the southern drainages and the lower percentage or near average forecasts are in the northern portion of the drainage. Adequate irrigation water supplies are anticipated for all drainages. Good high elevation snowpack should hold streamflows up well into the summer.

Tucker sno-cats are used by Montana snow surveyors to travel over the loose, powder snow common in the higher elevation drainages.



COLUMBIA RIVER DRAINAGE
MONTANA
MOUNTAIN SNOW WATER EQUIVALENT

WATER SUPPLY OUTLOOK Expressed as "Poor, Fair, Average, Excellent" with Respect to Usual Supply

STREAM or AREA	Flow Period: Spring Season	Flow Period: Late Season
Tobacco	Avg	Avg
Little Bitterroot	Exc	Avg
Mission Valley	Exc	Avg
Flint Creek	Exc	Exc
Upper Clark Fork	Exc	Exc
Nevada Creek	Exc	Avg
Blackfoot	Exc	Exc
West-side Bitterroot	Exc	Exc
East-side Bitterroot	Exc	Exc
Bitterroot River	Exc	Exc
Lower Clark Fork	Exc	Exc

SUMMARY of SNOW MEASUREMENTS
(COMPARISON WITH PREVIOUS YEARS)

RIVER BASIN and/or SUBWATERSHED	Number of Courses Averaged	THIS YEAR'S SNOW WATER AS PERCENT OF: Last Year	Average †
East Kootenay/BC.	24	140	110
Kootenai/Montana	27	182	108
Kootenai above Bonners Ferry	51	165	109
Little Bitterroot	5	227	106
N. Fk. Flathead	10	148	101
M. Fk. Flathead	9	175	111
S. Fk. Flathead	11	142	102
Swan	7	126	101
Flathead	42	148	104
Stillwater & Whitefish	5	184	106
Clark Fork above Blackfoot	37	165	118
Blackfoot	20	214	116
Upper Clark Fork above Missoula	57	182	117
Bitterroot	15	225	122
Lower Clark Fork below Missoula	14	201	108
Clark Fork (Total w/o Flathead)	86	196	116
Pend O'Reille (Clark Fork & Flathead)	128	173	111
Columbia (Pend O'Reille & Kootenai)	137	182	113

Above average snowpack in high and low elevations

March snowfall was above average in most drainages. Low elevation snow courses have well above average snowpack due to good snowfall and less than normal melt at these elevations. The Continental Divide from Butte to Glacier Park received large increases in water content during March.

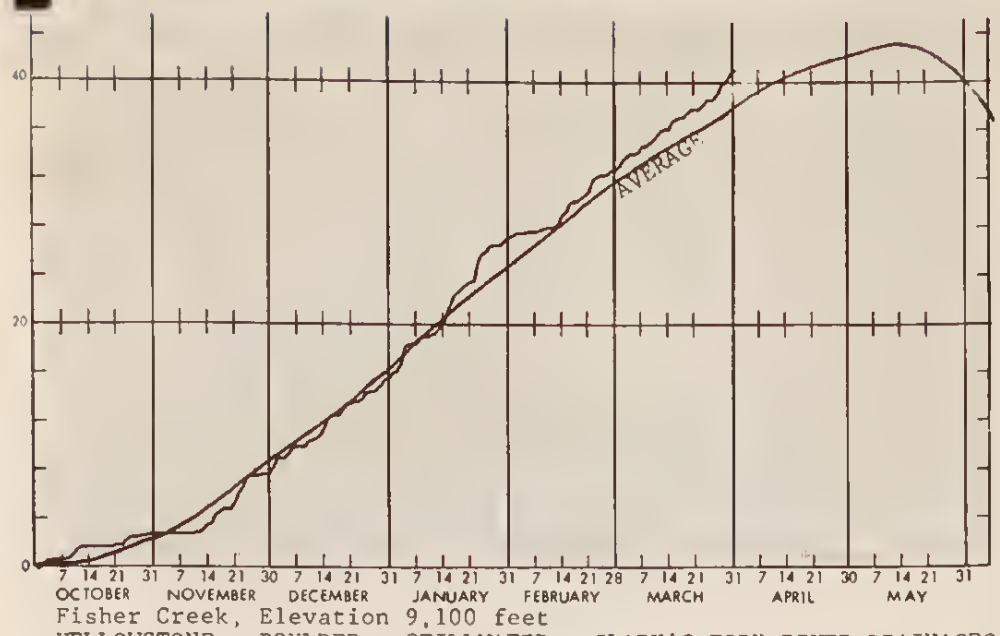
Presently, all drainages have near or above average amounts of water stored in the mountain snowpack.

The Bitterroot and Upper Clark Fork continue to show well above average snow cover.

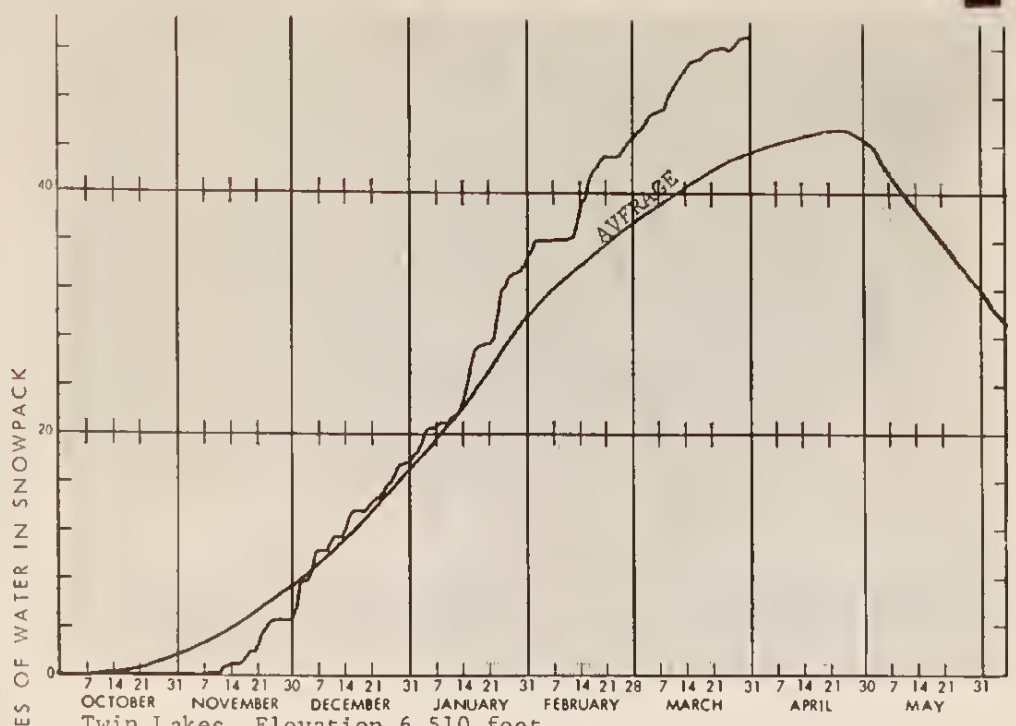
Mountain soils under the snowpack have near to below average moisture.

Big game animals must forage through the snowpack that has accumulated on their winter range.

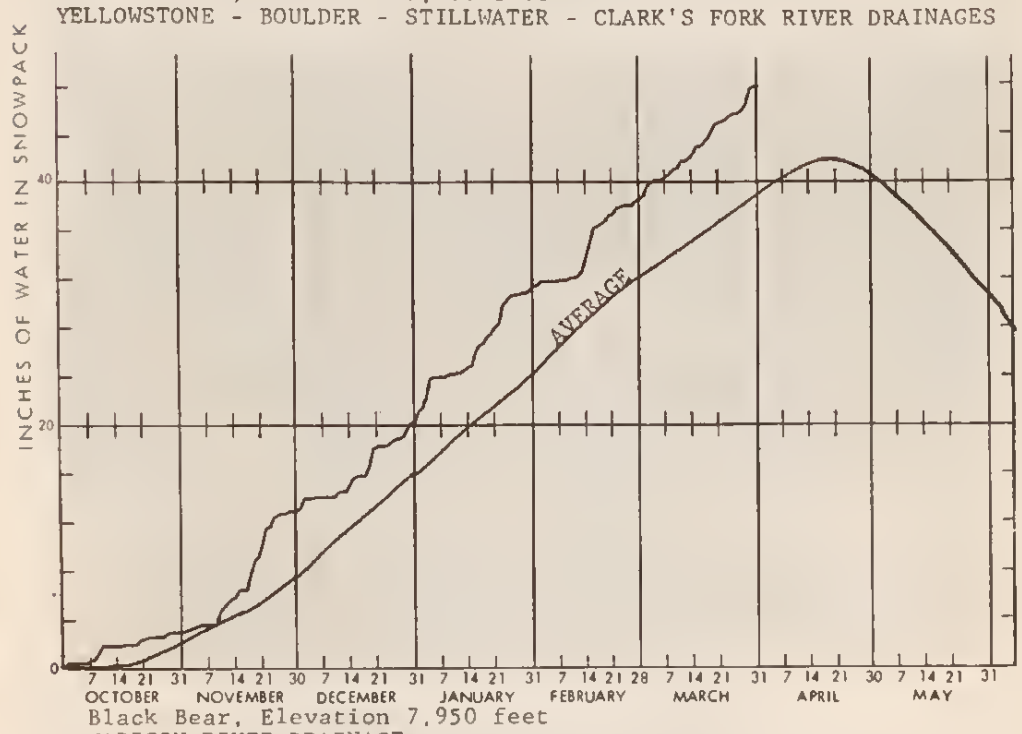
SNOW PILLOW DATA



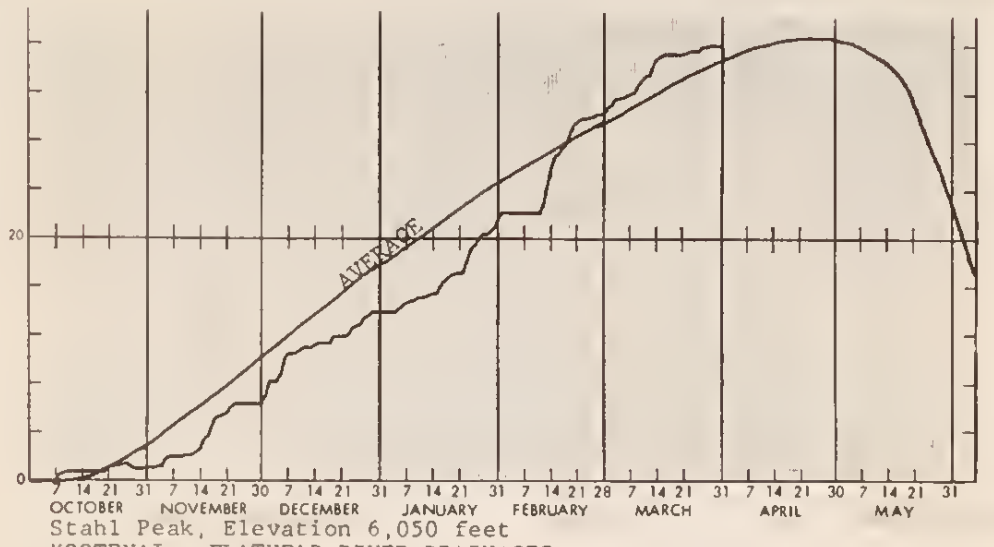
Fisher Creek, Elevation 9,100 feet
YELLOWSTONE - BOULDER - STILLWATER - CLARK'S FORK RIVER DRAINAGES



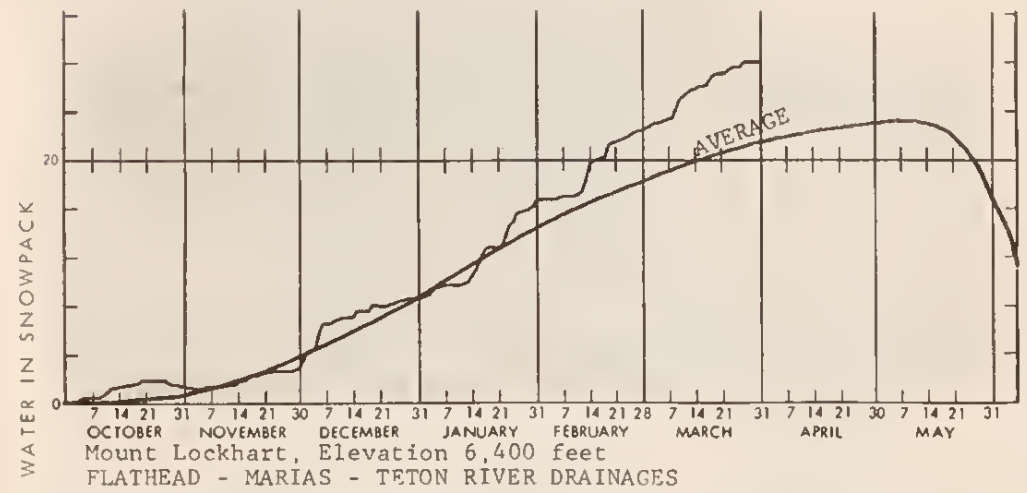
Twin Lakes, Elevation 6,510 feet
BITTERROOT RIVER DRAINAGE



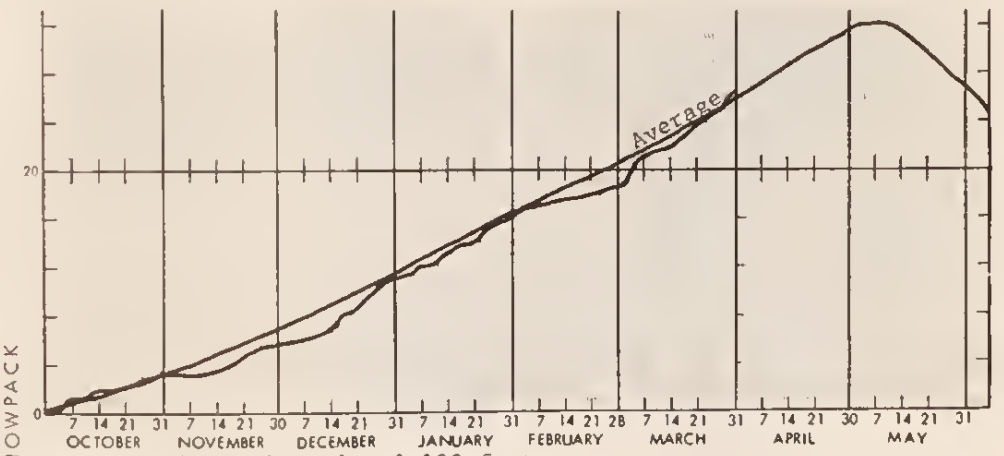
Black Bear, Elevation 7,950 feet
MADISON RIVER DRAINAGE



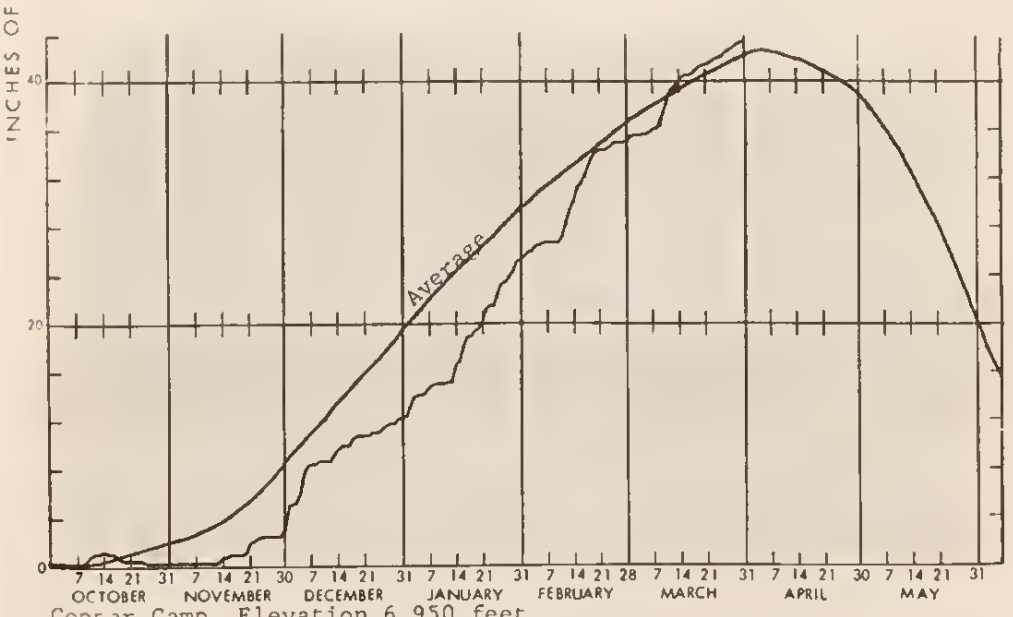
Stahl Peak, Elevation 6,050 feet
KOOTENAI - FLATHEAD RIVER DRAINAGES



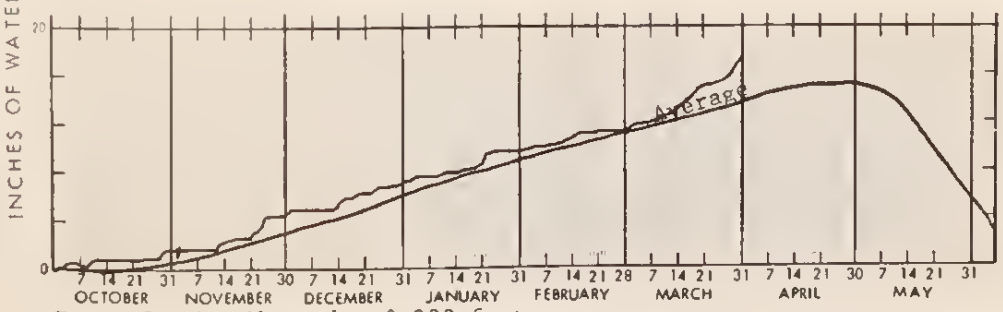
Mount Lockhart, Elevation 6,400 feet
FLATHEAD - MARIAS - TETON RIVER DRAINAGES



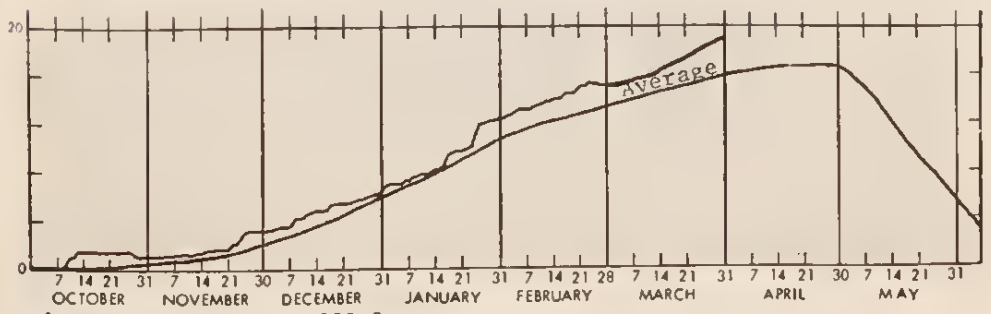
Shower Falls, Elevation 8,100 feet
GALLATIN - YELLOWSTONE RIVER DRAINAGE



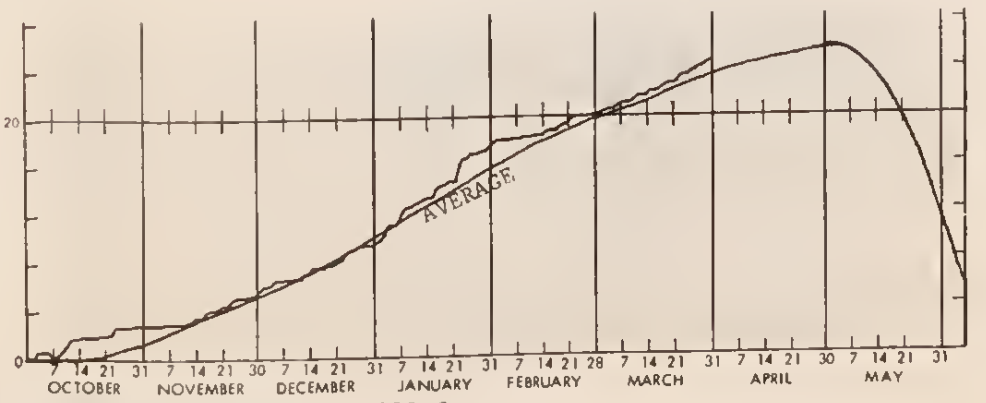
Copper Camp, Elevation 6,950 feet
BLACKFOOT RIVER DRAINAGE



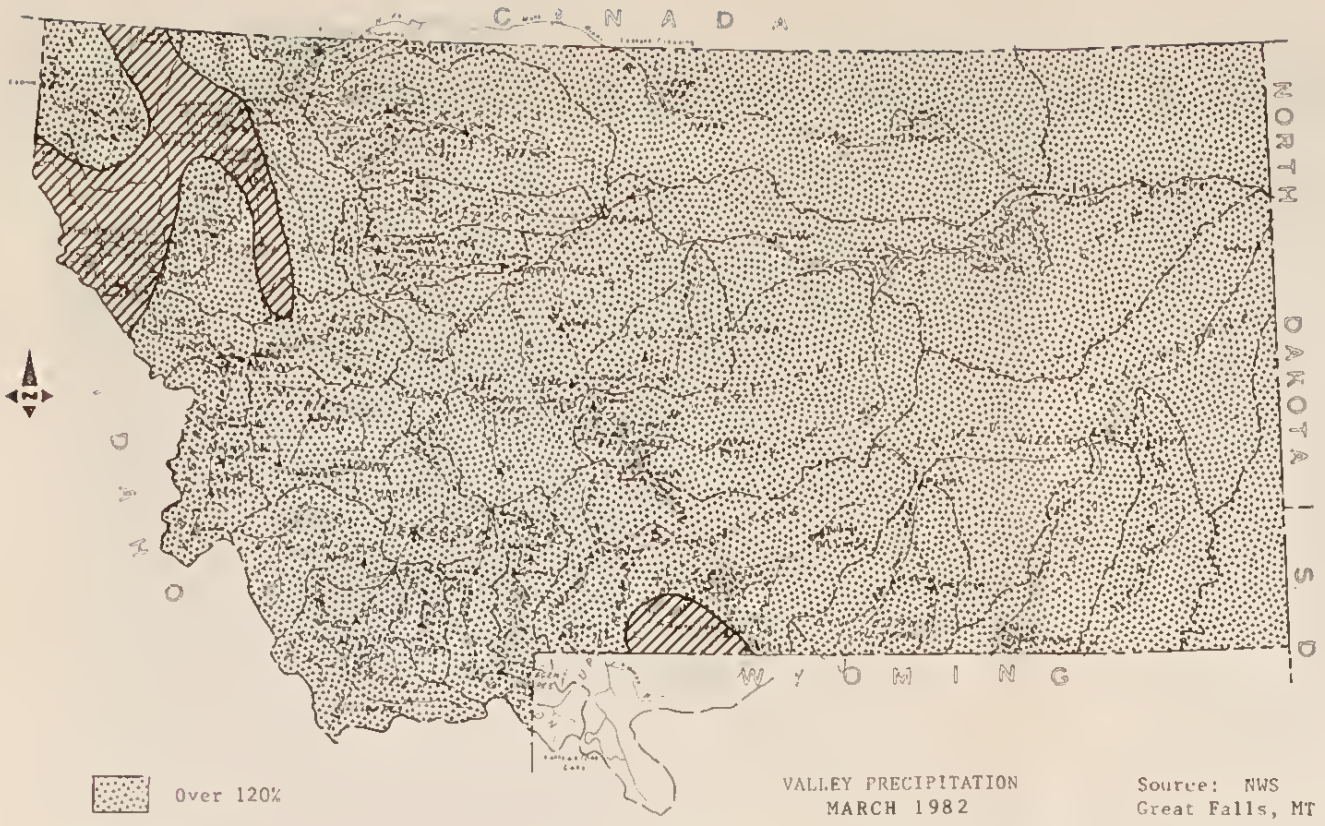
Tepee Creek, Elevation 8,000 feet
MADISON - BEAVERHEAD - RUBY RIVER DRAINAGES



Black Pine, Elevation 7,100 feet
UPPER CLARK FORK RIVER DRAINAGE



Spur Park, Elevation 8,100 feet
JUDITH RIVER DRAINAGE



VALLEY PRECIPITATION
MARCH 1982

Source: NWS
Great Falls, MT

U.S. DEPARTMENT of AGRICULTURE
SOIL CONSERVATION SERVICE
CONSERVATION OF WATER BEGINS WITH THE SNOW SURVEY

RESERVOIR STORAGE (Thousand Acre Feet) END OF MONTH March 31, 1982 Average based on 1963-77 period.

Basin or Stream	RESERVOIR	Usable Capacity	Usable Storage		
			This Year	Last Year	Average
	COLUMBIA				
Kootenai	Koocanusa	5,748.2	1,904.0	2,014.0	---
Flathead	Hungry Horse	3,451.0	2,158.0	2,646.0	2,016.0
	Flathead Lake	1,791.0	750.4	745.6	775.7
	Camas (4)	45.2	27.0	28.0	23.8
	Mission Valley (8)	100.3	24.4	44.2	41.1
Clark Fork	Georgetown Lake	31.0	28.5	28.0	24.0
	Lower Willow Creek	4.9	---	2.7	1.9
	Nevada Creek	12.6	8.9	9.0	7.9
	Noxon Rapids	334.6	312.1	158.7	191.9
Bitterroot	Painted Rocks	31.7	---	---	17.6
	Como	34.9	---	---	15.6
	MISSOURI				
Beaverhead	Lima	84.0	29.0	55.2	42.6
	Clark Canyon	257.2	167.3	170.8	143.7
Ruby	Ruby	38.8	---	36.5	30.9
Madison	Hebgen Lake	377.5	260.8	277.2	245.5
	Ennis Lake	41.0	30.1	31.6	34.4
Gallatin	Middle Creek	8.0	3.8	4.4	4.0
Missouri	Canyon Ferry	2,043.0	1,436.0	1,569.0	1,527.0
	Hauser & Helena	61.9	63.0	63.0	59.8
	Lake Helena	10.4	10.9	10.9	9.8
	Holter Lake	81.9	77.2	15.1	66.2
	Fort Peck Lake	18,910.0	14,200.0	14,820.0	15,480.0
Smith	Smith River	10.6	8.1	6.8	7.7
	Newlan Creek	12.4	10.2	10.0	---
Musselshell	Bair	7.0	4.6	5.1	5.4
	Martinsdale	23.1	11.8	10.9	10.1
	Deadman's Basin	72.2	---	61.4	52.6
Sun	Gibson	99.1	56.2	61.9	47.0
	Willow Creek	32.2	24.7	20.5	22.8
	Pishkun	32.0	19.8	26.4	16.5
Marias	Lower Two Medicine	11.9	---	12.0	6.9
	Four Horns	19.2	---	11.2	12.3
	Swift	30.0	12.0	22.9	16.9
	Lake Frances	111.9	78.4	79.9	71.9
Milk	Elwell (Tiber)	1,347.0	535.2	510.9	551.9
	Beaver Creek	3.5	2.5	1.8	1.9
	Fresno	127.2	54.9	59.9	89.1
	Nelson	66.8	35.6	24.5	41.5
	HUDSON BAY				
St. Mary's	Lake Sherburne	64.3	20.8	17.2	25.1
	YELLOWSTONE				
Stillwater	Mystic Lake	21.0	0.6	---	4.3
Clark's Fork	Cooney	27.4	3.1	---	16.4
Tongue	Tongue River	68.0	18.4	17.1	44.0
Bighorn	Bighorn Lake	1,356.0	836.0	847.4	552.1

SATELLITE SNOW COVER

DATE	PERCENT SNOW COVER	AVERAGE SNOWLINE ELEVATION IN FEET
November 8, 1981	9.5	8535
November 19, 1981	53	6530
November 26, 1981	100	3800
November 29, 1981	100	3800
December 7, 1981	71	5770
December 17, 1981	100	3800
December 20, 1981	91	4680
December 29, 1981	95	4380
January 6, 1982	96	4300
January 10, 1982	91	4680
January 17, 1982	100	3800
February 3, 1982	100	3800
February 18, 1982	76	5540
February 24, 1982	88	4890
February 28, 1982	76	5540
March 5, 1982	95	4380
March 13, 1982	59	6290
March 21, 1982	100	3800
March 25, 1982	91	4680

AGENCIES AND ORGANIZATIONS COOPERATING IN MONTANA SNOW SURVEYS

GOVERNMENT AGENCIES
- Canada
  - Department of the Environment
    - Atmospheric Environment Service
    - Water Management Service
  - British Columbia Ministry of Environment
    - Inventory and Engineering Branch, Hydrology Seetion
  - Alberta Environment
    - Technical Serviees Division
- Federal
  - Department of the Army - Corps of Engineers
  - Department of Agriculture - Forest Service
  - Soil Conservation Serviee
  - Department of Commerce - National Environmental Satellite Service
  - National Weather Service
  - Department of Interior - Bureau of Indian Affairs
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
  - Bureau of Reclamation
  - Department of Energy - Bonneville Power Administration

STATE AGENCIES
- Montana Conservation Districts
- Montana Department of Fish, Wildlife and Parks
- Montana Department of Natural Resources and Conservation
- Montana State University - Agricultural Experiment Station
- University of Montana - School of Forestry

PRIVATE ORGANIZATIONS
- The Anaconda Company
- Big Sky of Montana
- Butte Water Company
- Flathead Valley Community College
- Montana Power Company

Other organizations and individuals furnish valuable information for snow survey reports. Their cooperation is gratefully acknowledged.

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